

What is claimed is:

1. A DNA coding for a small subunit of actohydroxy acid synthase isozyme III originating from *Escherichia coli* which has a mutation to replace an amino acid residue
5 corresponding to serine residue at the amino acid number 17 with another amino acid residue in SEQ ID NO: 2, or both of a mutation to replace an amino acid residue corresponding to serine residue at the amino acid number 17 and a mutation to replace an amino acid residue corresponding to glycine
10 residue at the amino acid number 14 with another amino acid residue in SEQ ID NO: 2.

2. The DNA according to claim 1, wherein the mutation of the amino acid residue corresponding to serine residue at the amino acid number 17 is replacement of the
15 serine residue with phenylalanine residue and the mutation of the amino acid residue corresponding to glycine residue at the amino acid number 14 is replacement of the glycine residue with aspartic acid residue.

3. A DNA coding for actohydroxy acid synthase
20 isozyme III originating from *Escherichia coli* which is free from a inhibition by L-valine and has an activity to catalyze two reactions to generate α -acetolactate from pyruvate, and α -aceto- α -hydroxybutyrate from α -ketobutyrate and pyruvate.

25 4. The DNA according to claim 3, wherein the DNA codes for a large subunit and a small subunit of actohydroxy

acid synthase isozyme III, the small subunit having a mutation to replace an amino acid residue corresponding to serine residue at the amino acid number 17 with another amino acid residue, or a mutation to replace an amino acid residue corresponding to asparagine residue at the amino acid number 29 with another amino acid residue, or a mutation to delete a C-terminal region from the amino acid number 91 downwards, in SEQ ID NO: 2, or a combination of two or more mutations selected from the group consisting of aforementioned mutations and a mutation to replace an amino acid residue corresponding to glycine residue at the amino acid number 14 with another amino acid residue in SEQ ID NO: 2.

5. The DNA according to claim 4, wherein the mutation of the amino acid residue corresponding to serine residue at the amino acid number 17 is replacement of the serine residue with phenylalanine residue, the mutation of the amino acid residue corresponding to aspartic acid residue at the amino acid number 29 is replacement of the aspartic acid residue with lysine residue or tyrosine residue, and the mutation of the amino acid residue corresponding to glycine residue at the amino acid number 14 is replacement of the glycine residue with aspartic acid residue.

6. A bacterium which harbors the DNA according to claims 1 or 3 on chromosomal DNA or plasmid in said bacterium and has an ability to produce L-valine.

7. The bacterium according to claim 6, wherein expression of said DNA is enhanced.

8. The bacterium according to claim 7, wherein said expression is enhanced by locating said DNA under the
5 control of a potent promoter or amplifying a copy number of said DNA.

9. A method for producing L-valine comprising the steps of cultivating the bacterium according to claim 6 in a culture medium, producing and accumulating L-valine in the
10 culture medium, and collecting L- valine from the culture medium.